

GRADE 2 STANDARDS AND LEARNING ACTIVITIES

Strand: Number Sense and Operations**NUMBER SENSE****2.NSO-N.1.** Count, read, and write whole numbers to 1,000 and relate them to the quantities they represent.*Example: Use the numerals 8, 6, and 4:**Write the smallest three-digit number:**Write the greatest three-digit number:**Write other numbers using the same digits: ____ ____ ____***2.NSO-N.2.** Compare and order numbers to 1,000; use the symbols $>$, $<$, $=$.*Example: Fill in $<$, $>$, $=$ when comparing numbers. For example: 155 ____ 123, 674 ____ 931, 344 ____ 344.***2.NSO-N.3.** Identify the place value of the digits to 1,000.*Example: Using a place-value chart with hundreds, tens, and ones, read and write a number (715) with correct place value.*

Hundreds	Tens	Ones
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2.NSO-N.4. Use words, models, and expanded forms to represent numbers to 1,000.*Example: Write 493 in expanded form ($400 + 90 + 3$).***2.NSO-N.5.** Know that even numbers end in 0, 2, 4, 6, or 8; recognize even numbers as multiples of two; know that odd numbers end in 1, 3, 5, 7, or 9.*Example: Find the even number: 47, 106, 357, 629.***2.NSO-N.6.** Identify the value of all U.S. coins and \$1, \$5, \$10, and \$20 bills. Find the value of a collection of coins and dollar bills and different ways to represent an amount of money up to \$5.*Example: Given the pattern: P N N P N N ... if P stands for penny and N stands for nickel and the pattern continues until there are 12 coins altogether, determine the value of all 12 coins.***FRACTIONS****2.NSO-F.7.** Know that fractions may represent a portion of a whole that has been partitioned into parts of equal area or length; use the terms "numerator" and "denominator."*Example: Knowing that the denominator is the total number of parts in the figure and the numerator is the part of the whole you are shading, count the small divisions and color $\frac{1}{4}$ of them.***2.NSO-F.8.** Recognize the inverse relationship between the size of a unit fraction and the size of the denominator.*Example: Cut three apples into halves, thirds and fourths. Compare the sizes of the different pieces. Which is larger, $\frac{1}{2}$ of the apple or $\frac{1}{4}$ of the apple?***2.NSO-F.9.** Recognize, name, and write commonly used fractions such as $\frac{1}{2}$, $\frac{2}{3}$, and $\frac{3}{4}$.*Example: Using a rectangle, divide a rectangle into fourths and shade $\frac{3}{4}$ or 3 out of 4 parts.***2.NSO-F.10.** Recognize that fractions such as $\frac{2}{2}$, $\frac{3}{3}$, $\frac{4}{4}$, $\frac{10}{10}$, and $\frac{100}{100}$ are equal to the whole and to one.*Example: Dividing graham crackers into halves and quarters, show how eating a whole cracker equals the number of parts, e.g., four quarters, two halves.*

Strand: Number Sense and Operations (continued)**COMPUTATION AND OPERATIONS**

2.NSO-C.11. Demonstrate the ability to use conventional algorithms for addition (two three-digit whole numbers and three two-digit whole numbers) and subtraction (two three-digit whole numbers).

Example: Using a place-value chart with the base ten blocks to show regrouping, solve the problem $31 - 28 = 3$. Show how to exchange 1 ten for ten ones in order to solve the problem.

2.NSO-C.12. Find the distance between numbers on the number line.

Example: On a number line, how far is 76 from 24?

2.NSO-C.13. Know addition and subtraction facts (addends to 12), commit to memory, and use them to solve problems. Select and use appropriate operations (addition and subtraction) to solve problems, including those involving money.

2.NSO-C.14. Demonstrate the ability to add and subtract three-digit whole numbers accurately and efficiently.

Example: Use a place-value chart with hundreds, tens, and ones. Write the problem in the correct place value, then add or subtract.

2.NSO-C.15. Use mental arithmetic to find the sum or difference of two two-digit numbers.

Example: In a game, Mia and Noah are making addition problems. They make two two-digit numbers out of the four given numbers 1, 2, 3, and 4. Each number is used exactly once. The winner is the one who makes two numbers whose sum is the largest. Mia had 24 and 31; Noah had 21 and 43. Who won the game? How do you know? Show a way to beat both of them.

2.NSO-C.16. Represent multiplication as repeated addition.

Example: $2 + 2 + 2 + 2 = 8$, so $4 \times 2 = 8$ or "4 groups of 2s."

Example: Lynn made 3 baskets each week for 4 weeks. Draw four groups of three baskets to show how many baskets she made.

2.NSO-C.17. Demonstrate proficiency with multiplication facts for the ones, twos, and fives.

Example: On timed tests, know the answer to 6×5 .

2.NSO-C.18. Demonstrate an understanding of the inverse relationship of addition and subtraction, and use that understanding to simplify computation and check solutions.

Example: Check a subtraction problem (e.g., $76 - 23 = 53$) with an addition problem ($53 + 23 = 76$).

2.NSO-C.19. Know and identify various meanings of addition and subtraction, such as combination (i.e., plus, combined with, more), subtraction as comparison (i.e., how much less, how much more), equalizing (i.e., how many more are needed to make these equal), and separation (i.e., how much remaining).

ESTIMATION

2.NSO-E.20. Estimate, calculate, and solve problems involving addition and subtraction of two-digit numbers. Describe differences between estimates and actual calculations.

Example: Given the problem $52 + 49 = \underline{\quad}$, estimate by rounding both numbers to the nearest ten, then compare answer to an actual calculation.

Strand: Patterns, Relations, and Algebra

2.PRA.1. Recognize and describe simple repeating and growing patterns using numbers, shapes, sizes, colors, and letters.

Example: What is the next number: 17, 19, 21, 23...? How did you find your answer?

2.PRA.2. Describe functions related to coin trades and measurement trades.

Example: How many pennies make one nickel? How many cups make 1 quart?

2.PRA.3. Skip count forward and backward by twos, fives, and tens up to at least 100, starting at any number.

Example: Starting at 100 count backwards by 5s.

2.PRA.4. Construct and solve open sentences with variables for addition and subtraction of up to two three-digit numbers.

Example: Solve $42 + \square = 292$.

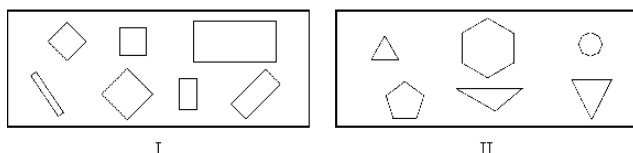
2.PRA.5. Use the commutative and associative rules for addition to simplify mental calculations and to check results.

Example: Add the numbers 5, 17, and 13 in this order. Now add them in the order 17, 13, and 5. Which was easier? Why? Was the result the same or different?

Strand: Geometry

2.G.1. Identify, describe, draw, and compare two-dimensional shapes, including both polygonal (up to six sides) and curved figures such as circles.

Example: Using geoblocks, trace the faces, identify the shape of each face, and tell the number of congruent faces. Use the sets below to answer the question.



Example: Use the sets below to answer the question. What rule did Chaya use to sort the shapes above into two groups?

1. I = three sides
II = four sides
2. I = big shapes
II = small shapes
3. I = shapes with right angles
II = shapes without right angles
4. I = shapes with four or more angles
II = shapes with fewer than four angles

2.G.2. Classify familiar two- and three-dimensional shapes by common attributes such as shape of curved and straight lines, number and shape of faces, edges, and vertices.

Example: How many vertices does a cube have?

2.G.3. Match and construct congruent and symmetric shapes.

Example: In a collection of rectangles, pick out those that are congruent, i.e., have the same shape and size. Divide a heart down the middle to make two symmetric halves.

2.G.4. Identify shapes under rotation (turns), reflections (flips), translation (slides), and enlargement. Describe direction of translations (e.g., left, right, up, down).

Example: Hold up a cardboard letter F to a mirror. Draw the letter and the shape you see in the mirror. Try other letters.

2.G.5. Predict and explain the results of putting two-dimensional shapes together and taking them apart.

Example: Use objects or a drawing program to find other shapes that can be made from a rectangle and a triangle. Use sketches or a drawing program to show several ways that a rectangle can be divided into three triangles.

2.G.6. Relate geometric ideas to numbers (e.g., seeing rows in an array as a model of repeated addition).

Strand: Measurement

2.M.1. Measure and compare the length of common objects using metric and U.S. customary units to the nearest centimeter or inch.

Example: Measure the length of your classroom to the nearest foot and meter.

2.M.2. Make and use estimates of measurement including time, volume, weight, area, and perimeter.

Example: After weighing two control objects (one less than a pound and one more than a pound), which object, a pencil or a math book, is more or less than one pound?

2.M.3. Select and correctly use the appropriate measurement tool (ruler, balance scale, thermometer).

Example: What tool would you use to find out how much water is in this bottle: a ruler, a cup, or a thermometer?

2.M.4. Tell time at quarter-hour intervals.

Example: Shade clocks in quarter hour increments.

2.M.5. Identify parts of the day (e.g., morning, afternoon, evening), days of the week, and months of the year. Identify dates using a calendar.

Example: Make a class schedule of activities for the morning, recording times to the hour and half-hour. Set the alarms of both a digital clock and an analog clock to ring at the start of each new activity. Read the clocks to verify that they match the times in the schedules.

2.M.6. Identify the value of all U.S. coins and \$1, \$5, \$10, and \$20 bills. Find the value of a collection of coins and bills and different ways to represent an amount of money up to \$5 using appropriate notation.

Example: If Jason buys a dozen donuts for \$5.78, what bills and coins can he use?

Strand: Data Analysis, Statistics, and Probability

2.DASP.1. Use interviews, surveys, and observations to gather data about themselves and their surroundings.

Example: Measure the hand span in whole centimeters of each student in your class. Keep a record of the answers they give you.

2.DASP.2. Organize, classify, and represent data using tallies, charts, tables, bar graphs, pictographs, and Venn diagrams; interpret the representations.

Example: Make a tally of your classmates' favorite colors and draw a bar graph. Name the color that is most popular and the color that is the favorite of the fewest people.

2.DASP.3. Formulate inferences (draw conclusions) and make educated guesses (conjectures) about a situation based on information gained from data.

Example: Make a tally of your classmates' favorite pets, favorite foods, or favorite school lunches and create a bar graph. Tell which pet, food, or school lunch had the most votes, or which had the least votes. Name the most popular and least popular. How many more or less votes did one item have than another?